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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number: 08215-559001
	Application Number 10/762,290	Filed January 23, 2004
	First Named Inventor Ramarge et al.	
	Art Unit 3729	Examiner Thiem D. Phan

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

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NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below'.

☒ Total of 6 sheets are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Ramarge et al.	Art Unit	: 3729
Serial No.	: 10/762,290	Examiner	: Thiem D. Phan
Filed	: January 23, 2004	Conf. No.	: 4684
Title	: MANUFACTURING PROCESS FOR SURGE ARRESTER MODULE USING PRE-IMPREGNATED COMPOSITE		

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PRE-APPEAL BRIEF

Pursuant to United States Patent and Trademark Office OG Notices: 12 July 2005 – New Pre-Appeal Brief Conference Pilot Program, a request for a review of identified matters on appeal is transmitted with the Notice of Appeal. Review of these identified matters by a panel of examiners is requested because the rejections of record are clearly not proper and are without basis, in view of a clear legal or factual deficiency in the rejections. All rights to address additional matters on appeal in any subsequent appeal brief are reserved.

Claims 8-22 and 33-39 are pending, with claim 8 being independent. Claims 8, 9, 12, 14-16, 33, 36, 37, and 39 have been rejected as being unpatentable over U.S. Patent No. 5,218,508 (Doone); claims 10 and 11 have been rejected as being unpatentable over Doone in view of U.S. Patent No. 5,842,096 (Mabbott); claims 13, 18-22, 34, and 35 have been rejected as being unpatentable over Doone in view of U.S. Patent No. 6,008,975 (Kester); and claim 38 has been rejected as being unpatentable over Doone in view of U.S. Patent No. 4,298,900 (Avdeenko). Applicant specifically asks the panel to review the issues highlighted below.

Independent claim 8 recites a method for manufacturing an electrical module assembly. The method includes providing an electrical module assembly including at least one MOV disk to which a reinforcing structure has been applied, and wrapping the electrical module assembly with shrink film. The method also includes compacting the wrapped electrical module assembly by heating the shrink film such that the shrink film shrinks and applies a compressive force to the electrical module assembly, and curing the reinforcing structure of the wrapped electrical module assembly at a temperature at which the shrink film no longer applies a compressive force.

1. Doone fails to describe or suggest curing a reinforcing structure of an electrical module assembly at a temperature at which a shrink film wrapped around the electrical module assembly no longer applies a compressive force to the electrical module assembly, as recited in independent claim 8.

In the only mention of a heat-shrink tape, Doone explains that an arrester core wrapped in a pre-preg material having a resin impregnated textile fabric can be helically wrapped "in a heat-shrink tape (e.g. a Mylar tape)," the resin of the pre-preg material can be heat-cured, and then the tape can be removed. See Doone at col. 6, lines 34-52.

However, Doone never describes or suggests that the pre-preg material would be cured at a temperature at which the heat-shrink tape no longer applies a compressive force to the arrester core. Doone merely explains that the resin of the pre-preg material is heat-cured and then the tape is removed. See Doone at col. 6, lines 48-52.

The Examiner points to col. 6, line 52 of Doone to somehow suggest that Doone's pre-preg material is cured in this manner. However, this passage of Doone merely explains that the tape is removed after the pre-preg material is cured. There is nothing in the passage that would suggest that the pre-preg material would be cured at a temperature at which the tape no longer applies a compressive force.

The Examiner also points to col. 6, lines 65-68 of Doone to somehow suggest that Doone's pre-preg material is cured in the claimed manner. This passage of Doone explains that after the arrester core is formed with the reinforced plastic shell (with the pre-preg material) using the heat-shrink tape (as described at col. 6, lines 48-52), the arrester core is then inserted into a heat-shrink sleeve 6. However, Doone's heat-shrink sleeve 6 that is placed around the reinforced plastic shell of the arrester core is not the heat-shrink tape that is used to form the reinforced plastic shell. Rather, Doone's heat-shrink sleeve 6 is placed around the reinforced plastic shell only after the reinforced plastic shell is formed around the arrester core using the process detailed at col. 6, lines 34-52, which includes curing of the pre-preg material. There is no suggestion in Doone that the reinforced plastic shell around the arrester core is cured while the heat-shrink sleeve 6 is around the reinforced plastic shell.

The Examiner also argues that the heat-shrink tape is "well known to stop shrinking further at certain temperature and no longer applies a compressive force." However, it is not

well known to cure a reinforcing structure such as the pre-preg material of Doone at a temperature at which the heat-shrink tape no longer applies a compressive force. Indeed, the Examiner has provided no example of curing at a temperature at which the heat-shrink tape no longer applies a compressive force and appears to have gleaned this information from applicant's own disclosure, which explains at page 19, lines 25-29 that there is a range of temperatures below the melting temperature of the shrink film within which the shrink film applies a compressive force and above a threshold temperature, the shrink film ceases to apply a compressive force.

As explained at page 20, lines 18-28 of applicant's specification, many benefits arise by curing the reinforcing structure at a temperature at which the shrink film no longer applies a compressive force, and none of the benefits appear to be provided by Doone's method. For example, curing at this temperature prevents resin within the reinforcing structure from being improperly driven into interfaces between elements of the electrical module assembly, which eliminates a need to bond the elements of the electrical module assembly together and avoids the need of a non-conductive epoxy between electrically conductive components of the assembly. By contrast, for example, Doone's method does not appear to provide such a benefit since Doone explains that the facing blocks of the arrester core are adhered by use of adhesive. See Doone at col. 5, lines 40-49.

Accordingly, for at least these reasons, claim 8 and dependent claims 9, 12, 14-16, 33, 36, 37, and 39 are allowable over Doone.

Additionally, as previously discussed, dependent claims 9, 12, 14-16, 33, 36, 37, and 39 are allowable for containing allowable subject matter in their own right. For example, claim 9 recites that the shrink film is a "bi-axially oriented polypropylene film." The Examiner argues that "Mylar and polypropylene film are well known to be polymeric resin and can be interchangeable as heat shrink film as applicants do not provide an advantage or a particular purpose for using the polypropylene as shrink film." First, applicant notes that claim 9 requires that the shrink film be a "bi-axially oriented polypropylene film," and Doone only mentions the use of Mylar™ as a heat shrink tape at col. 6, lines 50-52. If Mylar™ is not a bi-axially oriented polypropylene film then Doone fails to meet the claimed limitation of a shrink film being a bi-axially oriented polypropylene film. Indeed, Mylar is a polyester film. Accordingly, the

Examiner has failed to make a prima facie case of obviousness, which requires that each limitation be found in the cited references.

As another example, claim 12 recites that the temperature at which the wrapped electrical module assembly is compacted is of a different magnitude than the temperature at which the wrapped electrical module assembly is cured. However, Doone never describes that the array is cured at a temperature that is different from the temperature at which the pre-preg material is heated to compact the array. Rather, Doone describes only that the resin is cured with heat and then the heat-shrink tape is removed. See Doone at col. 6, lines 48-52. The Examiner seems to suggest that the mere removal of the heat-shrink tape is somehow equivalent to curing of a reinforcing structure at a temperature at which a shrink film no longer applies a compressive force. While the removal of the heat-shrink tape would prohibit the heat-shrink tape from applying further compressive force to the array, there is nothing in this passage that would suggest that the lack of compressive force was due to curing of the pre-preg material at a temperature at which the heat-shrink tape no longer applies such a compressive force.

2. Mabbott, Kester, and Avdeenko do not remedy the failure of Doone to describe or suggest curing a reinforcing structure of an electrical module assembly at a temperature at which a shrink film wrapped around the electrical module assembly no longer applies a compressive force to the electrical module assembly, as recited in independent claim 8.

Mabbott relates to an image printing system for printing images onto a surface. See Mabbott at col. 1, lines 6-13. Mabbott does not relate to electrical module assemblies and therefore does not describe or suggest heating a shrink film such that the shrink film shrinks and applies a compressive force to an electrical module assembly, and then curing reinforcing structure of the electrical module assembly at a temperature at which the shrink film no longer applies a compressive force, as recited in claim 8.

Kester relates to a modular subassembly 10 of an electrical component that includes an array 20 of stacked electrical components retained within an insulative coating 16. See Kester at col. 4, lines 10-34 and Fig. 1. The insulative coating 16 includes a matrix 21 of resinous layers and a spiral wrapped fibrous tape segment 28 that is embedded within the matrix 21. See Kester at col. 5, lines 38-48 and Fig. 4. However, Kester's tape segment 28 is not a shrink film.

Avdeenko relates to an overvoltage protection device that includes an insulating housing 48 around a column of resistors 43. See Avdeenko at abstract; col. 6, lines 51-62; and Fig. 3. Avdeenko never describes or suggests that a reinforcing structure is applied to the column of resistors or that the column is compacted by heating the insulating housing 48 and that a reinforcing structure is cured.

For at least these additional reasons, claim 8 is allowable over any proper combination of Doone and Mabbott, Doone and Kester, or Doone and Avdeenko, as are dependent claims 10, 11, 13, 18-22, 34, 35, and 38.

Conclusion

In conclusion, applicant submits that all claims are in condition for allowance. Please apply any charges or credits to deposit account 06 1050, referencing Attorney Docket No. 08215-559001.

Respectfully submitted,

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